CLAIMS

What is claimed is:

1.   A fuzzy inference system for use in modulating radiation treatment, said system comprising:

        fuzzifier means for inputting imaging data;

        inference means operatively connected to said fuzzifier means, said inference means for analyzing the imaging data and determining radiation treatment target from non-treatment target; and

        defuzzifier means for modulating radiation treatment pursuant to the analysis from said inference means.

2.   The system according to claim 1, wherein said system is computer based.

3.   A method of modulating radiation treatment by:

        inputting patient data into the fuzzy inference system according to claim 1; and

        modulating radiation treatment pursuant to data obtained from the fuzzy inference system.

4.   The method according to claim 3, wherein said modulating step includes automatically modulating radiation treatment.

5.   The method according to claim 4, wherein said modulating step includes automatically modulating radiation treatment via a computer.

6.   The method according to claim 3, wherein said modulating step includes increasing the amount of radiation at a specified location.

7.   The method according to claim 3, wherein said modulating step includes decreasing the amount of radiation at a specified location.

8.   An apparatus for producing modulating radiation therapy in patients, said apparatus comprising:

5   an imaging device for creating and storing image data of relevant tissue and organ parts; and

           a fuzzy inference system according to claim 1, said system operatively connected to said imaging device for modulating radiation treatment.

10   9.   The apparatus according to claim 8, wherein said system is computer based.

      10.   A fuzzy inference system for use in modulating radiation treatment, said system comprising:

           fuzzifier means for inputting imaging data;

15   inference means operatively connected to said fuzzifier means, said inference means for analyzing the imaging data and determining strength of radiation treatment; and

           defuzzifier means for modulating radiation treatment pursuant to the analysis from said inference means.

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      11.   The system according to claim 10, wherein said system is computer based.